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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/466,178	12/17/1999	ANDREW PETER BRADLEY	169.1523	9858

5514 7590 07/29/2003

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

KIBLER, VIRGINIA M

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 07/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/466,178

Applicant(s)

BRADLEY ET AL.

Examiner

Virginia M Kibler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2003 and 21 May 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-7,10,11,14-16,19-21 and 24 is/are rejected.
- 7) ☒ Claim(s) 3,4,8,12,13,17,18,22 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 5-7, 10, 11, 14-16, 19-21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tai (5,054,100) in view of Matsuoka (6,263,120).

Regarding claim 1, Tai discloses a method of interpolating a first set 22 of discrete sample values to generate a second set 32 of discrete sample values using an equation, characterized in that the it is modified depending on edge information for each discrete sample value of the first set (Abstract). Tai discloses modifying the equation depending on edge strength and edge direction (Col. 5, lines 56-59) as well as local contrast (Col. 6, lines 4-11). Tai uses the edge information to modify one equation rather than selecting a different interpolation kernel. However, Matsuoka teaches that it is known to interpolate using one of a plurality of interpolation kernels depending on edge information (Col. 4, lines 42-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the modifying of one equation disclosed by Tai to include selecting one of a plurality of interpolation kernels, as taught by Matsuoka, in order to perform adaptive interpolation to create high-resolution character image-area and smooth gradational photographic image area (Col. 2, lines 16-25).

Regarding claim 2, Matsuoka discloses the interpolations kernels as cubic and bilinear kernels, thereby derived from a universal interpolation kernel (Col. 2, lines 26-40).

Regarding claim 5, Tai discloses a method wherein the first set of discrete sample values are at a different resolution from the second set of discrete sample values (Abstract, lines 1-3).

Regarding claim 6, Tai does not appear to recognize indicating a text region. However, Matsuoka teaches that it is known to indicate a text region (Col. 7, lines 41-47). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the local contrast disclosed by Tai to include indicating a text region, as taught by Matsuoka, in order to discriminate different kinds of components-are to selectively apply suitable interpolation kernels independently to respective areas (Col. 7, lines 41-47).

Regarding claim 7, Tai and Matsuoka do not appear to recognize including a morphological process. However, using a morphological operation is known in the image processing prior art, as indicated in the applicant's disclosure (Page 9, lines 16-18). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the indicators disclosed by Tai and Matsuoka to include a morphological operation in order to emphasize the different areas to facilitate the differentiation.

Regarding claim 10, the arguments analogous to those presented above for claim 1 are applicable to claim 10.

Regarding claim 11, the arguments analogous to those presented above for claim 2 are applicable to claim 11.

Regarding claim 14, the arguments analogous to those presented above for claim 5 are applicable to claim 14.

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Regarding claim 15, the arguments analogous to those presented above for claim 10 are applicable to claim 15.

Regarding claim 16, the arguments analogous to those presented above for claim 2 are applicable to claim 16.

Regarding claim 19, the arguments analogous to those presented above for claim 5 are applicable to claim 19.

Regarding claim 20, the arguments analogous to those presented above for claim 10 are applicable to claim 20. Note that Tai discloses a software algorithm (Col. 3, lines 19-21).

Regarding claim 21, the arguments analogous to those presented above for claim 2 are applicable to claim 21.

Regarding claim 24, the arguments analogous to those presented above for claim 5 are applicable to claim 24.

Allowable Subject Matter

3. Claims 3, 4, 8, 12, 13, 17, 18, 22, and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims

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Contact Information

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia M Kibler whose telephone number is (703) 306-4072. The examiner can normally be reached on Mon. - Thurs. 8:00 - 5:30 and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

VK
July 23, 2003


AMELIA M. AU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600